



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 12.0089X

Issue No: 6

Certificate history:

Status: **Current**

Issue No. 6 (2017-09-28)

Issue No. 5 (2015-02-04)

Date of Issue: **2017-09-28**

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Issue No. 4 (2013-11-07)

Issue No. 3 (2013-06-24)

Applicant: **TopWorx Inc.**
3300 Fern Valley Road
Louisville
Kentucky 40213
United States of America

Issue No. 2 (2013-05-28)

Issue No. 1 (2013-01-07)

Issue No. 0 (2012-09-03)

Equipment: **TV* Switchboxes**

Optional accessory:

Type of Protection: **Type nA nC**

Marking:
Refer to the Annexe for markings.

Approved for issue on behalf of the IECEx
Certification Body:

C Ellaby

Position:

Deputy Certification Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





IECEX Certificate of Conformity

Certificate No: IECEX SIR 12.0089X Issue No: 6
Date of Issue: 2017-09-28 Page 2 of 4
Manufacturer: **TopWorx Inc**
3300 Fern Valley Road
Louisville
Kentucky 40213
United States of America

Additional Manufacturing location(s):

Emerson Process Management Magyarorszag Kft.,
Fisher Controls International LLC,
Holland Fasor 6,
Szekesfehervar,
Hungary

Emerson Machinery Equipment (Shenzhen) Co. Ltd.,
Bao Heng Technology Industry Park,
Liu Xian 1st Road,
District 68,
Bao'an District,
Shenzhen,518101
China

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/SIR/ExTR12.0208/00	GB/SIR/ExTR12.0259/00	GB/SIR/ExTR13.0061/00
GB/SIR/ExTR13.0168/00	GB/SIR/ExTR13.0263/00	GB/SIR/ExTR14.0290/00
GB/SIR/ExTR17.0210/00		

Quality Assessment Report:

GB/BAS/QAR06.0020/04	GB/BAS/QAR13.0005/00	GB/SIR/QAR07.0025/04
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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The TV* Switchbox consists of an enclosure (approximately 145 mm x 100 mm by 80 mm, without dome) comprising a base and a lid. The enclosure can be made from aluminium alloy (TVL) or stainless steel (TVH), with or without a Lexan indicator dome, depending upon the application. The lid is fitted with a seal inside a groove and four captive screws for attachment to the base. There are two types of lid; one is normal (flat) the other is a flat lid with a bushing and indicator dome. The bushing version of the lid has a hole in its centre to allow a shaft to be fitted for a Position Indicator under the Lexan dome. The base provides a cable entry via screwed entry holes for cable glands.

Refer to the Annexe for the marking, additional information and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- i. When fitted with an indicator dome, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall only be cleaned with a damp cloth.
- ii. When the supply to the Series 36 GO Switches does not exceed 60 Vac/85 Vdc, the supply shall be protected such that transients are limited to a maximum of 119 V. If the supply is above 60 Vac/85 Vdc but not exceeding 120 Vac, the supply shall be protected such that transients are limited to a maximum of 238 V.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Refer to the certificate annex to view a comprehensive history:

Annex:

[IECEX SIR 12.0089X Annexe Issue6.pdf](#)

Annexe to: IECEx SIR 12.0089X Issue 6

Applicant: Topworx Inc.

Apparatus: TV* Switchboxes



The marking is as follows:

TV* option	Certification code (gas)	Certification code (dust)	Ambient temperature range
P2	Ex nA nC IIC T6 Gc Ex nA nC IIC T4 Gc	Ex tc IIIC T85°C Dc, IP66/68 Ex tc IIIC T115°C Dc, IP66/68	-40°C to +55°C -40°C to +80°C
R2, R4	Ex nA nC IIC T3 Gc Ex nA nC IIC T3 Gc	Ex tc IIIC T85°C Dc, IP66/68 Ex tc IIIC T115°C Dc, IP66/68	-40°C to +60°C -40°C to +95°C
0X	Ex nA IIC T4 Gc	Ex tc IIIC T70°C Dc IP66/68	-40°C to +55°C
PX, RX	Ex nA nC IIC T4 Gc	Ex tc IIIC T115°C Dc, IP66/68	-40°C to +55°C
Q2, Q4, G2, G4	Ex nA nC IIC T6 Gc Ex nA nC IIC T4 Gc	Ex tc IIIC T85°C Dc, IP66/68 Ex tc IIIC T115°C Dc, IP66/68	-40°C to +55°C -40°C to +80°C
AS, DN, PB	Ex nA nC IIC T4 Gc	Ex tc IIIC T115°C Dc, IP66/68	-40°C to +85°C

Equipment (continued):

The permitted internal devices are as follows:

Device	Style	Ambient temp. range
Two reed switches (nC) type HSR-634W only	P2	-40°C to +55°C
Two or four reed switches (nC) type LV ELE145 only	R2, R4	-40°C to +95°C
ASI module (nA) plus two reed switches (nC)	AS	-40°C to +85°C
DeviceNet module (nA) plus two reed switches (nC)	DN	-40°C to +85°C
Profibus module (nA) plus two reed switches (nC)	PB	-40°C to +85°C
Two reed switches (nC) plus TopWorx 4-20 mA Transmitter Module (nA, Sira 12ATEX4193U) and associated potentiometer	PX, RX	-40°C to +55°C
TopWorx 4-20 mA Transmitter Module (nA, Sira 12ATEX4193U) and associated potentiometer only	0X	-40°C to +55°C
Two or four Series 36 GO switches (nC), 120Vac/4A, 24Vdc/3A	G2/G4	-40°C to +80°C
Two or four Series 36 GO switches (nC), 120Vac/2A, 24Vdc/1A	Q2/Q4	-40°C to +80°C

Conditions of Manufacture

- i. The manufacturer shall subject 100% of completed switchbox units to the electrical strength test in IEC 60079-15:2010 clauses 6.5, by applying a voltage of 1500 Vrms between all input terminals and the outer enclosure for a minimum of 60 s. Alternatively, a voltage of 1800 Vrms may be applied for 100 ms. There shall be no breakdown or flashover. The current flowing during the test shall not exceed 5 mA.
- ii. When the equipment incorporates a 4-20 mA Transmitter Module (IECEX SIR 12.0076U), the following additional requirements apply:
 - the manufacturer shall supply a copy of certificate IECEx SIR 12.0076U with each unit or batch of units;
 - the output from the 4-20mA Transmitter Module shall only be connected to a Novotechnic WAL305 potentiometer;
 - A maximum of two switches is permitted when the 4-20 mA Transmitter Module is fitted.
- iii. The following drawings, relating to TV* Switchboxes incorporating simple mechanical switches (models AK, AM, DK, DM, PK, PM), are withdrawn and shall not be used for production:
 - CERT-ES-02883-1
 - CERT-ES-02888-1
 - CERT-ES-02890-1

Date: 28 September 2017

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Form 9530 Issue 1

Sira Certification Service

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Annexe to: IECEx SIR 12.0089X Issue 6

Applicant: Topworx Inc.

Apparatus: TV* Switchboxes



Full certificate change history

Issue 1 – this Issue introduced the following changes:														
1.	The introduction of an alternative manufacturing location, Emerson Machinery Equipment (Shenzhen) Co. Ltd. Bao Heng Technology Industry Park, North Hong Long 2nd Road, District 68, Boan District, Shenzhen 518101, China, was recognised.													
2.	A typographical error to the description was amended													
Issue 2 – this Issue introduced the following change:														
1.	The introduction of an alternative manufacturing location, Emerson Process Management Magyarország Kft., Fisher Controls International LLC., H-8001 Szekesfehervar Berenyi U, 72-100, Hungary, was recognised													
Issue 3 – this Issue introduced the following changes:														
1.	Introduction of model numbers TV* Px.... (Profibus), TV* Ax.... (ASi) and TV* Dx.... (DeviceNet), where 'x' = K, M or R.													
2.	The product description and marking were amended for clarity.													
3.	Removal of drawing CERT-ES-03003-1 from the list of controlled drawings													
Issue 4 – this Issue introduced the following changes:														
1.	The introduction new models that incorporate a 4-20mA Transmitter Module, IECEx SIR 12.0076U, plus an associated Novotechnic WAL305 potentiometer. This change required the application of a new Condition of Manufacture.													
2.	The following model number changes were recognised: TV*.AR to TV*.AS (ASi option); TV*.DR to TV*.DN (DeviceNet option); TV*.PR to TV*.PB (Profibus option)													
3.	The removal of the nitrile O-ring option; only silicone O-rings will now be fitted.													
4.	The Description of Equipment and the marking were extensively modified to better describe the product in its current format and recognise the following. <ul style="list-style-type: none">• The introduction the new models that incorporate a 4-20mA Transmitter Module.• The removal of the nitrile O-ring option.• The clarification of the ambient temperature ranges that are applicable to alternative internal constructions. It should be noted that previous Issues of the certificate are still relevant and apply to products manufactured in accordance with already certified constructions.													
Issue 5.-. this Issue introduced the following changes:														
1.	The introduction of S50440A silicone O-ring on the lid/base joint as a replacement to S7395-60 silicone.													
2.	The replacement of IP64 with IP66/68 marking, the marking was amended accordingly.													
3.	The removal of the following devices that incorporate mechanical switches:													
	<table border="1"><thead><tr><th>Device</th><th>Style</th><th>Ambient temp. range</th></tr></thead><tbody><tr><td>2 switches plus ASi module (nA)</td><td>AK, AM</td><td>-40°C to +85°C</td></tr><tr><td>2 switches plus DeviceNet module (nA)</td><td>DK, DM</td><td>-40°C to +85°C</td></tr><tr><td>2 switches plus Profibus module (nA)</td><td>PK, PM</td><td>-40°C to +85°C</td></tr></tbody></table>	Device	Style	Ambient temp. range	2 switches plus ASi module (nA)	AK, AM	-40°C to +85°C	2 switches plus DeviceNet module (nA)	DK, DM	-40°C to +85°C	2 switches plus Profibus module (nA)	PK, PM	-40°C to +85°C	
Device	Style	Ambient temp. range												
2 switches plus ASi module (nA)	AK, AM	-40°C to +85°C												
2 switches plus DeviceNet module (nA)	DK, DM	-40°C to +85°C												
2 switches plus Profibus module (nA)	PK, PM	-40°C to +85°C												
	The product description was amended accordingly and an additional Condition of Manufacture was introduced.													
4.	The addition of ASi, DeviceNet and Profibus drawings.													

Issue 6 is on the next page

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Annexe to: IECEx SIR 12.0089X Issue 6

Applicant: Topworx Inc.

Apparatus: TV* Switchboxes



Issue 6 – this Issue introduced the following changes:		
1	Change of manufacturing locations	
	Hungary	
	From Emerson Process Management Magyarország Kft., Fisher Controls International LLC, H-8001 Szekesfehervar Berenyi U, 72-100, Hungary	To Emerson Process Management Magyarország Kft., Fisher Controls International LLC, Holland Fasor 6, Szekesfehervar, Hungary 8000
	China	
From	To	
	Emerson Machinery Equipment (Shenzhen) Co. Ltd., Fisher Controls Division, Bao Heng Technology Industry Park, North Hong Long 2 nd Road, District 68, Boan District, Shenzhen 51810, China	Emerson Machinery Equipment (Shenzhen) Co. Ltd., Bao Heng Technology Industry Park, Liu Xian 1 st Road, District 68, Bao'an District, Shenzhen, China 518101
2	Introduction of the 36-series GO Switch, associated with sensing options Q2/Q4 and G2/G4, requiring the addition of a Specific Condition of Use	
3	Rationalisation of dust temperature marking to T85°C (associated with gas T6 marking) and T115°C (associated with gas T4 marking) for all except the '0X' option	

Date: 28 September 2017

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